1. A passive optical coupler comprising:

a plurality of input and output port pairs;

and arranged to couple each of said input ports to the output port of each other input and output port pair.

2. A passive optical coupler comprising:

a plurality of input ports each having a corresponding output port;

wherein each input port is coupled to all output ports other than its corresponding output port.

3. A communications access network comprising a passive optical secupler according to claim 1.

4. A communications network comprising a passive optical coupler according to claim 1.

5. A passive optical network arrangement comprising:

a head end station;

at least one subscriber station;

a passive optical network providing optical connectivity from each of said stations to each other station;

wherein said subscriber stations are arranged to transmit on a common optical frequency distinct from that on which said head-end station is arranged to transmit, and each of said subscriber stations is arranged to detect when another of said subscriber stations is transmitting on said common optical frequency over said passive optical network, and in which the passive optical network comprises a passive optical coupler according to claim 1.

6. A passive optical network arrangement according to slaim 5 in which the subscriber station communicates with the head-end station using a carrier sense/collision detection protocol.

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- A passive optical network arrangement according to claim 6 in which the protocol is an Ethernet protogo
- A passive optical network arrangement according to claim 6 in which the protocol operates at bit rates of the order of 1Gbit/s or above.
- A passive optical network arrangement according to claim 5 in which 9. the passive optical network provides optical connectivity from each of said stations back to itself.
- A passive optical network arrangement according to claim 5 in which 10. said passive optical network comprises:

a passive star coupler connected by means of point-to-point optical links to each of the stations.

- A passive optical network/arrangement according to claim 5 in which 11. no optical connectivity from each of said the passive optical network provides stations back to itself.
- A telecommunications access network comprising a passive optical network arrangement according to claim 5.
- A telecommunications perwork comprising a passive optical network 13. arrangement according to claim 5.
- An optical transceiver arrangement comprising: 14.

a transmitter arranged to transmit data on a first optical frequency;

a transmission detector arranged to receive, on said first optical frequency, signals from a network indicative of a transmission by another subscriber station on said first frequency;

a medium access logic unit arranged to prevent transmission on said first frequency while said transmission detector is detecting said signals from a network indicative of a transmission by another subscriber station eq said first frequency.

- An optical transceiver arrangement according to claim 14 in which the 15. transceiver further comprises:
  - a receiver arranged to receive data on a second optical frequency.

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16. An optical transceiver arrangement according to claim 14 in which the station comprises:

a common input port arranged to receive both said signal on said first optical frequency and said signal on said second frequency;

an optical frequency splitter arranged to provide said signal on said first frequency to said transmission detector and said signal on said second trequency to said receiver.

- 17. An optical transceiver arrangement according to claim 16 in which the station comprises, said indication comprises any non-zero signal on said first optical frequency.
- 18. An optical transceiver arrangement according to claim 17 in which the transmission detector comprises a simple light detector.
- 19. An optical transceiver arrangement according to claim 18 in which the light detector comprises a PIN diode.
- 20. A communications network comprising an optical transceiver according to claim 14.
- 21. A method of operating a passive optical network arrangement comprising:

a head-end station;

at least one subscriber station;

a passive optical network providing optical connectivity from each of said stations to each other station;

comprising the steps of:

at least on of the subscriber station transmitting on an optical frequency common to the subscriber stations and distinct from that an which said head-end station is arranged to transmit;

at least one of the subscriber stations detecting when another of said subscriber stations is transmitting on said common optical frequency over said passive optical network.

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A method of operating an optical transceiver arrangement comprising: 22. transmitting data on a first optical frequency;

receiving, on said first optical frequency, signals from a network indicative of a transmission by another subscriber station on said first frequency;

preventing transmission on said first frequency while said transmission detector is detecting said signals from a network indicative of a transmission by another subscriber station on said first frequency.

A passive optical network a rangement comprising: 23.

a plurality of subscriber station;

a passive optical network providing optical connectivity from each of said stations to each other station;

wherein said subscriber stations are an anged to transmit on a common optical frequency, and each of said subscriber stations is arranged to detect when another of said subscriber stations is transmitting on said common optical frequency over said passive optical network, and in which the passive optical network comprises a passive optical coupler according to claim 1.

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